

# Open Research Online

---

The Open University's repository of research publications and other research outputs

## Ligeti and Stockhausen: A concert of piano and electronics works from the 195

### Other

#### How to cite:

Williams, Sean; Stockhausen, Karlheinz; Smith, Simon and Ligeti, György (2013). Ligeti and Stockhausen: A concert of piano and electronics works from the 195. Edinburgh College of Art.

For guidance on citations see [FAQs](#).

© [\[not recorded\]](#)

Version: Version of Record

---

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

---

[oro.open.ac.uk](http://oro.open.ac.uk)

## GYÖRGY LIGETI (1923–2006)

Capriccio No 1 – Invention – Capriccio No 2 (1947/48)

Omaggio a Girolamo Frescobaldi (from *Musica ricercata*) (1951–3)

Artikulation (1958)

Ligeti composed the two Capriccios and Invention while studying at the Franz Liszt Academy of Music in Budapest; the influence of Bartók is clear (in the second Capriccio particularly) but Ligeti's own distinctive voice is already becoming quite apparent. Though not composed as a set, they nevertheless make a very effective sequence. The first capriccio is a rather charming piece in sonata (or sonatina) form; the Invention is a rather stern piece in two voices built on a wedge-like chromatic subject; and the second Capriccio is a vigorous piece in 'Bulgarian rhythm' (with shifting and alternating beat lengths of 2 and 3 quavers) in the manner of the last six pieces of Bartók's *Mikrokosmos*.

*Musica ricercata*, composed only a few years later, is an explicit attempt at construct a personal style, not denying but acknowledging and subsuming various influences. It is a cycle of eleven pieces for piano, the first of which uses only two pitches (A, in all octaves, and a concluding D), the next uses three, the next four, and so on; this last movement, subtitled 'Homage to Frescobaldi', uses all twelve. It is constructed as a *ricercare*, a predecessor of sorts of the fugue, with a winding twelve-note subject which in the first half of the piece appears twelve times, starting on E and a fifth higher each time until E is reached again. The countersubject takes the form of a simple descending chromatic scale, and these scales overlap and accumulate to give the impression of an Escher-like continuous descent. (Ligeti would later explore this same idea – at much faster tempi – in some of his Etudes, particularly *Automne à Varsovie* and *Vertige*.)

*Artikulation* was composed and realized at the West Deutsche Rundfunk Studios for Electronic Music in Cologne with the help of Gottfried Michael Koenig and Cornelius Cardew. Werner Meyer-Eppeler's work in phonetics influenced Ligeti via Stockhausen, and in *Artikulation* Ligeti created electronic sounds using serial methods – the house style of the WDR Studios – to create 42 types of sounds, with names such as “barking”, “sandpaper”, “coughing” and then during several iterations of processing, divided up into “sounds”, “words”, “texts”, “sentences” and “languages”. Ultimately, all the precisely measured lengths of tape were put into boxes, then four individual tapes – one for each channel - were assembled by selecting these fragments at random. In this way, Ligeti was able to combine the two contrasting techniques of serialism and aleatory composition into one amazing piece of electronic music.

## KARLHEINZ STOCKHAUSEN (1928–2007)

*Klavierstück VII* (1954)

*Elektronische Studie II* (1953) premiere of new realization by Sean Williams (2013)

*Klavierstück IX* (1954/61)

*Gesang der Jünglinge* (1956)

Stockhausen composed his first set of four *Klavierstücke* (piano pieces) in 1952, and shortly thereafter planned a large cycle of 21 pieces made up of subgroups of 4, 6, 1, 5, 3 and 2 pieces. The second, largest set (*V–X*) followed in 1954–5 (though *VI* went through numerous extensive revisions, and *IX* and *X* were completed in 1961), and the single piece *XI* was composed in 1956. Thereafter the original plan was seemingly abandoned; Stockhausen did however complete another eight pieces, all of which are extracts from or arrangements of sections of *LICHT*, the cycle of seven operas on which he worked almost exclusively from 1977–2003. From *XV* onwards the pieces are for synthesizer, which was for Stockhausen the natural successor to the piano.

*Klavierstück VII* is an exploration of the resonances of the (traditional) piano. By pressing down keys silently to raise the dampers on specific strings, these strings then resonate sympathetically with notes struck elsewhere. In this way a repeated pitch at the beginning of the piece (C sharp) is given a different colour each time as the 'silent' notes change. Stockhausen is characteristically ultra-precise in his indications for all three pedals (including half-pressing the sustaining pedal) in the quest for greater variety and finer control of the timbre, resonance and decay of the instrument.

*Studie II* was the first electronic piece to be published as a realisation score, allowing new versions to be made in an electronic music studio. Made very soon after the founding of the WDR Studios in Cologne, *Studie II* uses a process of joining 5 very short recordings of sine waves together, passing through an echo chamber, and using the reverberated result as the raw material. The 193 sine wave groups are distributed according to intervals based around  $25\sqrt{5}$  so the piece has a set of harmonic relationships all of its own.

In 2013, Sean Williams used a combination of historic and contemporary techniques over 200+ hours to create a new realisation, remaining as faithful as possible to the score but combining the original studio-performance practice for shaping each sound with the best acoustic reverberation possible, and a little help from Craig Webb and the NESS project's spatial simulations.

*Klavierstück IX* begins in a striking manner which again displays a preoccupation with tone colour: a single chord is played 140 times with a long *diminuendo* and gradual application of the soft pedal, so that while the pitch remains constant the timbre is constantly changing. Repetitions of this chord appear intermittently during the piece like echoes or aftershocks. The construction of the piece is dominated by the Fibonacci series, which determines almost everything – the length of each bar, the subdivisions of the bar, the number of notes in a bar, number of notes in groups of grace notes, number of repetitions, and so on. (The length of the first bar, for instance, is 142 beats – the chord is not sounded on the last two – which is derived from  $1 + 2 + 3 + 5 + 8 + 13 + 21 + 34 + 55 = 142$ ; the next bar is 87 beats, the preceding number in that sequence; the

next bar is 42 beats (2 x 21) with long notes of 3, 8, 5, 13, 5 and 8 beats, and so on.) From its stark and uncompromising opening the piece passes through a huge range of colours and textures to ultimately dissolve into irregular clouds of grace notes at the very top of the keyboard.

*Gesang der Jünglinge*, or *Song of the Youths* is representative of the coming of age of electronic music, exemplifying the shift from often single-technique studies to large scale compositions using a plethora of techniques and a mind-boggling compositional approach. Gottfried Michael Koenig was Stockhausen's assistant during the realisation of the piece, and although serialist principles were used to compose everything from the overall structure down to the tiniest detail of each sound – duration, dynamic, frequency, colour, etc – there is a strong case for suggesting that the physical performance practice involved with making the sounds in the studio also had a significant impact on the way the piece sounds. Originally written for 5-channels, it has only ever been performed in 4-channels and this quickly became the final version. Each channel was constructed on its own and synchronised later, and this makes it all the more impressive when you hear sounds move around the space. The ambition and scale of the work is truly staggering when one realizes that all the sounds were constructed with a couple of sine wave oscillators, an impulse generator, a noise generator, a reverb plate, some filters and tape machines, and the voice of 12 year old Joseph Protschka.

**Simon Smith**, born in Northumberland, studied at St Mary's Music School in Edinburgh with Richard Beauchamp and Tom David Wilson and at Cambridge University with Jeremy Thurlow and Giles Swayne.

As a pianist he has performed many of the landmarks of the 20th-century piano repertoire, most notably many of Karlheinz Stockhausen's Klavierstücke and the piano concerto and complete Etudes of György Ligeti, following a performance of which he was acclaimed as “a phenomenon – nothing daunts him, technically or musically” (The Scotsman). For Delphian Records he has recorded solo music by James MacMillan, Stuart MacRae, Hafliði Hallgrímsson and Thomas Wilson. His most recent recording, a two-disc set of the complete piano music of Alfred Schnittke, will be released in January 2014.

Following the premiere of his orchestral piece *Paragon* by the Meadows Chamber Orchestra in 2001, Simon was recognised as “clearly a composer determined to go places – and fast” (The Scotsman). He has gone nowhere fast; but a number of pieces have emerged ardously since, mostly for orchestra. Simon also works professionally as a music engraver, having produced scores of numerous large-scale works by Harrison Birtwistle, James MacMillan and Karlheinz Stockhausen, among others.

**Sean Williams** is a Leverhulme Early Career Researcher at the Reid School of Music documenting early electronic music performance practice, making electronic instruments, performing with them in public, and writing about the history, process and practice of electronic music. He performs with Edinburgh based improvisation ensembles *Grey Area*, and *Monosynth Orchestra*, and has recently published chapters on King Tubby's dub style and Karlheinz Stockhausen's performance practice. He is from Dorking.

The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336.

THE UNIVERSITY OF EDINBURGH CONCERT SERIES AUTUMN · WINTER 2013

# Concerts at The University

**Saturday 2 November 2013**  
**8.00pm**  
**Reid Concert Hall**

**Simon Smith** · piano  
**Sean Williams** · sound projection

Piano and Electronics from the 1950s

**GYÖRGY LIGETI (1923–2006)**

*Capriccio No 1 – Invention – Capriccio No 2*  
*Omaggio a Girolamo Frescobaldi* (from *Musica ricercata*)  
*Artikulation* – 4-channel tape (3:52)

**KARLHEINZ STOCKHAUSEN (1928-2007)**

*Klavierstück VII*  
*Elektronische Studie II* – monophonic tape (3:03)  
*Klavierstück IX*  
*Gesang der Jünglinge* – 4-channel tape (13:13)



The Leverhulme Trust



THE UNIVERSITY of EDINBURGH  
*Edinburgh College of Art*